

Thomas Hodgkin (1798–1866): Pathologist, Social Scientist, and Philanthropist

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In 1863 Thomas Hodgkin accompanied his friend Sir Moses Montefiore, then 79 years old, on his journey to North Africa, where Jews and Christians were suffering at the hands of the Moslems. After traveling in the Royal Navy gunboat *H.M.S. Magicienne* to Morocco, they crossed the Atlas desert to intercede with the Sultan [1]. One can hardly describe the journey of this devout Quaker physician¹ with his Jewish financier friend as common practice in the nineteenth century, nor would it describe the traditional occupation of physicians at that time, yet it characterizes Dr. Hodgkin, who was more than just a physician to be remembered because of his description of a lymphadenomatous disorder we now know as Hodgkin disease.

Thomas Hodgkin (Fig. 1) was born on August 17 in 1798 in Pentonville, England as the son of John and Elizabeth Hodgkin, née Rickman, both members of the Society of Friends. Young Thomas was tutored at home by his father, a classicist and mathematician, assisted by the Frenchman Peter Vincent Cassanet. Hodgkin became fluent in French, Latin, Italian, German, Greek, and Spanish [2,4]. At 18 years of age he was briefly employed as a private secretary to William Allen, a distinguished chemist, apothecary, and antislavery activist [2,5]. Subsequently, from 1817 to 1819 he served as an apothecary's apprentice in Brighton, but then decided to pursue a medical career, a decision influenced by Joseph John Gurney, a prominent Quaker philanthropist [3] and by Hodgkin's conviction that medicine was the best passport for a traveler in a foreign land [4]. He entered Guy's

Hospital and Medical School as a physician's pupil in 1819. A year later, being barred from education at Oxford and Cambridge because he was not a member of the Church of England, he went to Medical School in Edinburgh, Scotland, where he enrolled for two sessions, 1820–1821 and 1822–1823 [4]. From October 1821 to September 1822 he attended lectures at La Charité and Hôpital Necker in Paris [5], thus broadening his training. It is during this year that he became associated with Alexander von Humboldt (scientist, explorer, and sociologist) and trained with Professor René Théophile Hyacinthe Laënnec, inventor of the stethoscope, from whom he learned the art of auscultation. On his return to England in 1822 he presented a paper on the stethoscope to the Physical Society at Guy's Hospital,² a presentation that unfortunately is missing from the records of this Society [4]. Although the stethoscope appears to have been known in London as early as the end of 1819 [4] it is generally accepted that its introduction to Guy's Hospital by Hodgkin promoted its more general use in England [2]. In 1823, Thomas Hodgkin received his medical degree from Edinburgh University with a thesis entitled "De Absorbendi Functione," written in Latin and containing some original observations on the absorptive function of blood and lymph [7]. In this thesis he described the interrelationship of lymph nodes and spleen in terms of normal function. It is this same relation that he would pursue in his famous 1832 paper, albeit then in terms of illness [8].

In the fall of 1823 he accepted a position as the personal "traveling" physician to Abraham Montefiore, the younger brother of Sir Moses Montefiore his later friend, but this professional relationship was terminated before the end of that same year [9]. He then traveled to Europe, visiting Italy, Geneva, and Paris and returned to London in the summer of 1825 to begin a private practice. He became a Licentiate of the College of Physicians in London, but in 1836 refused to accept the title of Fellow of

¹Quakers or Society of Friends: a Christian religious group founded by George Fox in about 1650, that strictly abide by the consequences of Barclays' fifteenth proposition—plain speech, plain dress, refusal of worldly goods, refusal to bear arms, etc. [2]. The basis of their teaching is the belief that each soul meets directly with its Maker, without any intermediators. They were prohibited from holding office or from attending the University, but became very successful in business, trade, and banking [3]. Because worldly pleasures were frowned upon, they put their resources in philanthropic pursuits. The educational process was a complex problem, as the education provided by the surrounding materialistic society was considered sources of "heathen thought." The children were educated by Quakers using texts that had been written and rewritten in order to supply an acceptable background, free of "heathen" influences.

²Thomas Guy was a seventeenth-century bookbinder who was considered a notorious skinflint. He left his entire fortune, gained in the South Seas stock speculation, to found Guy's Hospital [6].

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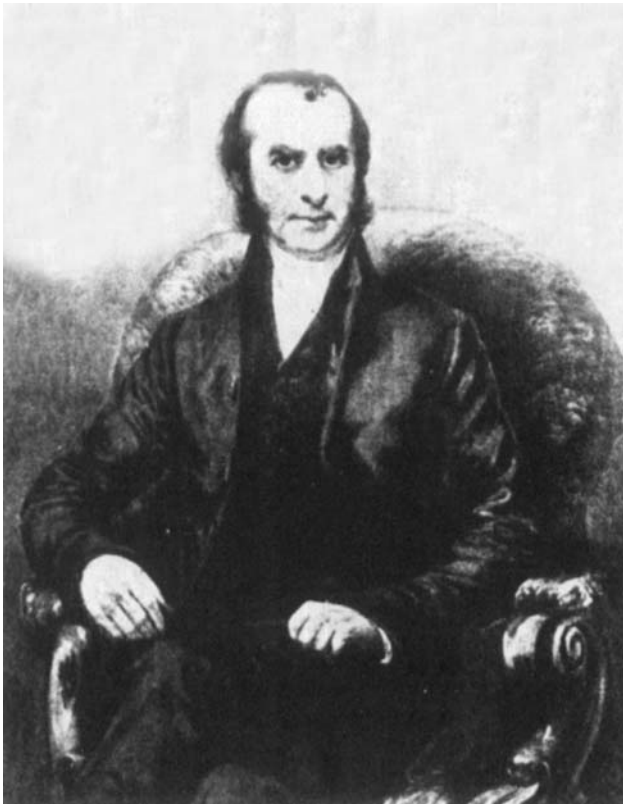


Fig. 1. Thomas Hodgkin: 1798–1866 (courtesy of The New York Academy of Medicine Library).

the College, not acknowledging the prevailing difference between a member and the higher title Fellow which according to him involved an invidious distinction [10].

Maintaining a small clinical practice [7] Hodgkin returned to Guy's Hospital in 1825, where at the age of 27, he was appointed the first lecturer in Morbid Anatomy and Curator of the Museum at Guy's Hospital. Upon arrival at Guy's, Hodgkin joined two other outstanding Edinburgh graduates, Dr. Richard Bright and Dr. Thomas Addison. In these two excellent clinicians he found companions in his desire to compare clinical observations during illness with postmortem findings. His systematic and scientific approach on the value of pathology was reflected in the first separate course of lectures on morbid anatomy in Great Britain, given by him at Guy's. Subsequently he published these lectures in two volumes [11,12].

Prior to Hodgkin's appointment, Guy's Hospital and St. Thomas Hospital had constituted the United Hospitals Medical School and had shared the Anatomical Museum. However, for some time relations between the two Hospitals had been uneasy. A definitive separation followed the appointment of the successor of Sir Astley Cooper, on whose brilliance as a surgeon and teacher the fame of the United Surgical School largely rested. This appointment

had been made by the Governors of St. Thomas without prior consultation with the Treasurer and Governors of Guy's Hospital, despite all the rules which had been laid down to control such appointments. As a consequence of this separation Sir Astley Cooper's anatomical specimens remained in the Museum at St. Thomas Hospital. Nevertheless, Thomas Hodgkin was able to publish the first catalogue of the new Museum at Guy's Hospital in 1829, arranging more than 3,000 entries of normal and pathological specimens in such a way as to demonstrate the effects of certain diseases on different organs [13]. This totally new approach on Morbid Anatomy had a purpose: "The habit of frequently reviewing in the same succession preparations brought together for the purpose of illustrating the pathology of a particular organ or apparatus cannot fail to render considerable practical assistance to diagnosis, by enabling the memory rapidly to bring under review the various possible alterations with which the organs suspected of disease may be affected" [14].

In 1827 together with Joseph Jackson Lister Sr., a London wine merchant who developed the achromatic microscope, he reported on the biconcavity of erythrocytes and the striated appearance of muscle [15]. These microscopic observations were translated into French [16], German [17], and Italian [18].

At the opening of the session 1827–1828 Hodgkin addressed the Pupil's Physical Society of Guy's Hospital with an essay on Medical Education. He discussed his views on needed reforms for the medical curriculum. Risking to displease his more senior colleagues, he proposed some radical changes including a sharp reduction in the period of apprenticeship with an apothecary, greater emphasis on preclinical training, which he indicated should include more study of Morbid Anatomy, Physiology, and Legal Medicine,³ and finally more attention to the practical training of medical students (walking the wards with a physician). Hodgkin: "The plan which I would recommend would be, for the students on entering to the practice of medicine, whilst they would be at liberty to see all the medical patients, to attach themselves more especially to some one of the Physicians, precisely

³His advocacy of the introduction of Legal Medicine into the medical curriculum resulted from a personal experience soon after his appointment at Guy's Hospital, when he became involved in a dispute between the *Lancet* and the main London Hospitals. Thomas Wakley, founder and editor of the *Lancet*, contended the favoritism and nepotism that existed in the main London Hospitals. He had arranged for an associate to gain admission to the theater when Bransby Cooper performed a difficult bladder stone operation, during which the patient died. The informer seized his opportunity during the subsequent postmortem examination, performed by Hodgkin, when the latter was called from the room. Upon Hodgkin's return the informer tried to show that Cooper had made a hole from the bladder into the rectum during surgery. Hodgkin's reaction on this false accusation: "Sir thou hast made the hole thyself" [19].

as the Dressers are accustomed to do with respect to the Surgeons" [19].

In 1829 he relates several cases of retroversion of the aortic valves [20]. It is generally not appreciated that Hodgkin's description of aortic insufficiency preceded Sir Dominic Corrigan's classic paper [21]. Hodgkin's findings, which were also described in two Proceedings of the Hunterian Society [22], did not get widespread attention. When in 1871 and again in 1878, Dr. Samuel Wilks, a successor to Thomas Hodgkin at Guy's Hospital, having unearthed Hodgkin's paper, attempted to credit Thomas Hodgkin with his original contribution [23,24], the association with Corrigan had already firmly been established [25].

Hodgkin's willingness to serve as an interpreter of advanced medical knowledge for public health purposes is exemplified in his "Lectures on the means of promoting and preserving health" delivered at the Spitalfields Mechanics' Institute in London in 1829, portions of which were printed in the *Sunday Times* [26]. Subsequently these lectures were published in 1835 [27] with a second edition in 1841 [28]. The Mechanics' Institute became a widespread movement to further the technical as well as the general education of members of the English working class [3]. To fully appreciate the need for this movement it is necessary to realize the poor state of nutrition, hygiene, and health in England at that time, legacies from the Middle Ages, worsened by the Industrial Revolution; few bothered about clean air, pure water,⁴ and fresh food. Hodgkin recognized that in order to eradicate disease more was needed than treatment and cure only, namely confirmation and preservation of health. In four lectures Hodgkin summarizes in popular terms the state of knowledge of air, light, and general cleanliness on health (lecture 1), digestion and nutrition (lecture 2), exercise and muscular activity (lecture 3), and child health and childhood education (lecture 4), and then enters into a detailed series of recommendations. His lectures "contained a great deal of information connected with medical subjects" but also, "ill timed and ill judged" political hints, according to a reviewer of his book [3]. Alternatively it can be classified as "an admirable exposition" of the consequences of the atrocious social conditions then existing, including employment of children as chimney sweeps, which Hodgkin needless to say denounced [30].

During the final stages of the Reform Bill of 1832, Great Britain was struck by cholera, which had arrived by ship from Hamburg in October 1831 [31]. This epidemic

intensified the existing social tensions: the middle class saw cholera as a poor man's disease and did not panic and run, while the ruling class saw cholera as a threat to their social and economic well being and reacted sharply with public health restrictions and demands for cholera hospitals [31]. Thomas Hodgkin's pamphlet "Hints relating to the cholera in London: Addressed to the public in general, but especially to those who possess influence in their Parishes and Districts. And a letter to a member of the Board of Health" connected the bad living conditions and cholera [32]. He recommended the cleaning of the streets as well as the interior and exterior of houses in the districts inhabited by the poor, and, as a scientist, he also recommended careful observation and recording of all available data relating to this disease, in order to better understand it.

In 1832 Hodgkin also wrote the first of three pamphlets answering the objections and misrepresentations made against the American Colonization Society, of which he was a vice-president [31], and closer to home signed, as chairman pro tem of the Society for the Improvement of the Condition of Factory Children, a sheet soliciting funds from the public in support of this cause. This public appeal cited the early age at which children were sent to work (many under eight years of age) and the duration of their work, for 12 to 15 hours a day, with only half an hour for meals. A 10-hour bill would only pass 15 years later. However, problems relating to child labor still exist, as recently became apparent by a United Nations report from the International Labor Organization, which urges governments to tighten legislation against child labor [33; Dr. Susan Gunn, Child Labor Specialist, International Labor Organization, Geneva, personal communication].

In these, and subsequent pamphlets addressing the medical care for the working class poor, public health, housing, and sanitation, Hodgkin consistently maintained that the basic problems of the poor were not medical but socioeconomic. He pointed out that the working class was a valuable national resource whose unemployment status was a financial loss to the community and since money given as charity left nothing behind in exchange, Hodgkin saw greater benefits from using charitable money to provide jobs for those able to work [31].

To many physicians Thomas Hodgkin is mainly, if not only, known because of the malignant lymphatic disease that carries his name, be it that he himself acknowledged that his findings were not entirely new and "probably familiar to many practical morbid anatomists." As mentioned in a footnote in Hodgkin's published manuscript on this disease, it was most likely Marcello Malpighi (1628–1694) who first described this malignant disorder, approximately 200 years prior to Hodgkin's description [34]. Nevertheless, it was Hodgkin's report, barely rec-

⁴Before the development of the sewerage system in London in the 1850s, "some 250 tons of fecal matter daily found their way into the Thames," which, "like other rivers, also served as a convenient depository for the victims of murder and infanticide, and for suicides" [29].

ognized in his own time (his 1832 manuscript was not even mentioned in the summaries of his “most valuable” and “most important” works recorded in the obituary notes following his death [8]), that greatly contributed to our understanding of the lymphoreticular malignancies. In “On some Morbid Appearances of the Absorbent Glands and Spleen” [35], Hodgkin described the necropsy appearances of six of his patients and one that he found among the pathological drawings made by his friend Dr. Robert Carswell [36,37]. He observed the combination of considerable generalized lymphadenopathy and in six of the cases splenomegaly without any evidence of infection or other inflammatory pathology. Thomas Hodgkin, however, did not expand on his description and pathological observations, other than indicating that the described process was not inflammatory. Hodgkin: “unless the word inflammation be allowed to have a more indefinite and loose meaning than is generally assigned to it, this affection of the glands can scarcely be attributed to that cause, since they are untended with pain, heat, and other symptoms of inflammation” [35]. It is noteworthy that in spite of his skills at microscopy [15] he never subjected the lymphoid tissues to histologic study but confined himself to macroscopic studies. Subsequent histologic examination has shown that only three or at the most four of the cases were actually Hodgkin’s disease [38].

The immortalization of Hodgkin’s name has to be attributed to Dr. Samuel Wilks. Initially unaware of Hodgkin’s manuscript that had been published in a relatively obscure medical journal [8], Wilks independently described the same disorder in 1856 [39], but at the last moment having found the reference acknowledged Hodgkin’s priority. Dr. Wilks published a second manuscript on this malignancy in 1859, and determined to put credit where it belonged, used the eponym “Hodgkin’s disease” in the title of his third paper on this topic [40]. It was not until the turn of the century that the term Hodgkin disease firmly took root. Prior to its universal use some 50 synonyms were used for this malignancy [41]. A twist of fate has credited Thomas Hodgkin with the use of his name in a second malignancy, this time without him having contributed to its description: non-Hodgkin disease.

In 1837, following the death of Dr. Henry James Cholmeley, Thomas Addison was promoted to replace him as Physician, creating a vacancy for the position of Assistant Physician, a post that did not carry a salary, although payment was received from the pupil’s fund for the lectures given [4]. This position was considered desirable as it allowed the appointee to attend outpatients, to see patients of absent staff physicians, and occasionally to fill in for them on admission days [4]. From the seven candidates that applied for this position Thomas Hodgkin, who

for the preceding 8 years had been doing this work unofficially, and Benjamin Babington, the inventor of the laryngoscope (initially referred to as “glotscope,” renamed “laryngoscope” by Thomas Hodgkin, and later years changed to the modern spelling [30,42]), were by far the two best candidates. And while Hodgkin’s medical and scientific credentials were excellent, his involvement in the social reforms and humanitarian activities of his time, especially his criticism of the exploitation by the Hudson’s Bay Company and the destructive effect of its fur trade on the Indian culture and way of life, could not have been regarded favorably by Benjamin Harrison, Jr., one of the directors of Hudson Bay Company and treasurer of Guy’s Hospital, the man who controlled the appointments at Guy’s Hospital. On August 5, 1837, Mr. Harrison, confronted with a difficult choice, proposed that two Assistant Physicians be appointed, but that only one should give the clinical lectures and receive the fees. The second Assistant Physician would be curator of the museum [43]. Hodgkin interpreted this arrangement as a way to pass him without seeming to do so, and stated two days later to Harrison that his offer was unacceptable to him, apparently sealing his fate. On September 6, 1837, 24 votes are casted, 21 in favor of Babington, three in favor of Hodgkin (two abstained) [44]. On the day following the election of Dr. Babington as Assistant Physician, Dr. Thomas Hodgkin resigned. The departure of Hodgkin was by some felt as a loss “of one of its great ornaments,” while the profession in England lost “one who was destined to shed a luster on its rank” [45].

Hodgkin’s criticism of the Hudson Bay Company might not have been the sole reason for the insufficient support of his candidacy. His habit of driving in London sitting side-by-side with a black man, his lack of interest in practice and fees [19], his refusal in 1836 of the Fellowship of the Royal College of Physicians [3], his intimate connection with the newly created London University⁵ which he helped to found and of which he was a Senate member until his death, and possibly his health, all very likely contributed to his failure in being appointed as Assistant Physician, despite an excellent curriculum vitae. Whatever the exact reasons for his rejection, this episode marked a turning point in Hodgkin’s life. His career as a pathologist came to an end, despite a short lived return in this discipline five years later when he accepted the positions of Lecturer of the Theory and Practice of Medicine and Curator of the Museum of Morbid Anatomy at St. Thomas Hospital. His return in pathology however lasted just 10 months. From 1837 on, Hodgkin was able to devote himself to a wide variety of

⁵This University which granted degrees to nonconformists, e.g., Quakers, Jews, and Catholics, was considered a threat [19].

philanthropic activities, and in doing so to more than ever express his interest in social justice in its broadest sense.

Hodgkin's concern and compassion for the oppressed, both in his immediate surrounding but also abroad, was expressed in his involvement in the antislavery and colonization efforts. In response to what he considered to be "a crisis that threatened the existence of aboriginal people" [3], Hodgkin became one of the cofounders of the Aborigines' Protection Society, which collected and disseminated information for the enlightenment of the public and government. In doing so the Aborigines' Protection Society hoped that land companies, settlers, and government officials would protect natives until they could become equal members of a biracial society [46]. The motto of this society, which initially included humanitarians, anthropologists, and ethnologists, "Ab uno sanguine," ("From one blood") reflected Hodgkin's view that we all descended from one source. The specific scientific interests of the anthropologists and ethnologists within this society (Hodgkin was one of them) resulted in the foundation of a separate society, the Ethnological Society of London, which in time became the Royal Anthropological Society. In 1851, he also became the first of the honorary secretaries of the Royal Geographical Society, which had been founded in 1830 in London to encourage scientific research in geography and promote exploration of new lands and cultures.

In his personal life Hodgkin was less successful. He had fallen in love with his cousin Sara Godlee, but the elders of the Society of Friends forbade marriage between cousins. Hodgkin appealed this decision on two occasions, the second time in 1840 when Sara Godlee had become a widow. In his 1840 written appeal, he methodically examined the arguments used against marriages of close relatives [26]. His position as Honorary secretary of the Geographic Society had enabled him to request explorers in distant places to make relevant observations on this matter. Unfortunately for him, his petition was not successful, but nevertheless he accepted the decision made by the elders. Ten years later, at the age of 52, he married a widow, Mrs. Frances Sara Scaife. They had no children.

In many ways Hodgkin was a man ahead of his times. At least two of his preoccupations are still existent. First, his advocacy to accept the metric system universally: "I would earnestly entreat, not only my fellow members of the British Medical Association, but my British medical brethren generally, not merely to set their faces against new grains, which will not remove old inconveniences but give rise to many new ones, but rather take the lead in introducing that beautiful and practically convenient system of weights and measures which, though devised by our nearest foreign neighbours, should excite no national jealousy since it belongs alike to every portion of our globe" [47]. Second, his recognition of the ill effects of

the use of tobacco, of which he not only perceived the negative effects to the smoker, but also pointed out that the smoker "inflicts the smoke on all, indiscriminately" [28]. Needless to say that the latter observation has experienced renewed interest in the past decade [48–51].

Thomas Hodgkin's special and long-lasting relation with Sir Moses Montefiore deserves some elucidation. Moses Montefiore was one of the founders of the Imperial Continental Gas Association and is credited with the introduction of gas lighting in the streets of Europe [10]. At age 40 he was able to retire and dedicate the rest of his life to philanthropy having made a fortune at the stock exchange in close collaboration with his brother-in-law Nathan M. Rothschild. In 1837 he was Sheriff of the City of London. Thomas Hodgkin and Sir Moses Montefiore developed a long-lasting relationship that started around 1823, when Hodgkin, as a newly graduated physician, accompanied Abraham Montefiore, Moses' brother, on his travel to Southern Europe.

Thomas Hodgkin and Moses Montefiore traveled together on five occasions, generally to try to relieve anti-Jewish oppression and at the same time to serve the interests of the British Government. Hodgkin took advantage of these trips, making notes on the ethnology and geography of the regions they visited. Most of his notes have been published in lengthy correspondences or in books. In 1866 they traveled for the last time together to distribute charity to the poor of Jerusalem. During this trip Hodgkin became seriously ill in Jaffa and died on April 4, 1866, probably due to dysentery (possibly, however, cholera [1]). Sir Moses, writing in the *Jewish Chronicle* later that year, summed up the man in these words: "to one so guileless, so pious, so amicable in private life, so respected in his public career, and so desirous to assist with all heart in the amelioration of the condition of the human race, death could not have had any terror" [19]. A final blending of their friendship must undoubtedly have been the fact that the Quaker Hodgkin died and was buried in Israel, whereas the Jew Montefiore died and was buried in England.

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